

Claims

1. A fastener including:-

a longitudinal body;

a first work engaging member mounted on the longitudinal body;

5 a second work engaging member associated with the longitudinal body; and

means on the longitudinal body for adjusting position of the first work engaging member on the longitudinal body,

the second work engaging member including means capable of assuming a first position of narrow cross-sectional area and a second position of wide cross-sectional area.

10 2. The fastener of Claim 1, wherein the first work engaging member is a pressure foot mounted on the longitudinal body and adapted to be urged towards work surfaces which are to be trapped between the first work engaging member and the second work engaging member.

15 3. The fastener of Claim 1 or 2, wherein the second work engaging member is mounted on or attached to or integral with the longitudinal body.

4. The fastener of Claim 1 or 2, wherein the second work engaging member is integral with, or joined to, the first work engaging member.

20 5. The fastener of any one of Claims 1 to 4, wherein the means capable of assuming the first and second positions includes wings or leaves.

6. The fastener of any one of Claims 1 to 5, wherein the position adjusting means includes ratchet teeth and a pawl.

7. The fastener of Claim 6, wherein the ratchet teeth are on the longitudinal body.

25 8. The fastener of Claim 6 or 7, wherein the pawl is formed integrally with the first work engaging means.

9. The fastener as claimed in Claim 8, wherein the first work engaging member, the second work engaging member and the pawl element are made in one piece or are in a fixed spatial relationship.

10. The fastener as claimed in any one of Claims 1 to 8, wherein the second work engaging member is connected to or integral with the longitudinal body.

11. The fastener of any one of Claims 1 to 10, which includes means for attaching one or more elements.

5 12. The fastener of Claim 11, wherein a cable tie is integrated with the first work engaging member.

13. The fastener of any one of Claims 1 to 12 when mounted in or formed with a feeder strip.

14. A method of fastening work surfaces using the fastener of any one of Claims 1 to 13,
10 the method including the steps of:

inserting the second work engaging member into an aperture in the work surfaces;

causing the means included in the second work engaging member to assume the second position of wide cross-sectional area;

15 causing the position of the first work engaging member on the longitudinal body to change so that the work surfaces are held in desired contact between the first and second work engaging members; and

optionally removing substantially all of the longitudinal body accessible beyond the first work engaging member and the position changing means.

16. A method of removing the fastener of any one of Claims 1 to 13 from work surfaces fastened by the fastener, the method including the steps of:

causing the second work engaging member to assume the first position of narrow cross-sectional area; and

withdrawing the fastener from the aperture in the work surfaces.

17. A fastener including:

25 a first longitudinal body having first engaging means; and

a second longitudinal body having:

an opening adapted to receive the first longitudinal body; and

second engaging means in at least part of the opening;

wherein the first and/or second engaging means is adapted to deform sufficiently to permit the first longitudinal body to slide axially through the opening in the second longitudinal body and wherein the second engaging means is adapted to engage the first engaging means on the first longitudinal body when one longitudinal body is 5 rotated relatively to the other.

17. The fastener of Claim 16 which includes means capable of assuming a first position of narrow cross-sectional area and a second position of wide cross-sectional area.
18. The fastener of Claim 17, in which the means capable of assuming the first and second position is part of or attached to the second longitudinal body.
19. The fastener of any one of Claims 16 to 18, in which the first and second engaging means permit unidirectional movement of the first longitudinal body within the second longitudinal body.
20. The fastener of any one of Claims 16 to 19, wherein the first longitudinal body includes the first engaging means for some or all of its length.
21. The fastener of any one of Claims 16 to 20, wherein the first engaging means is a helical thread or serrations or grooves, each having a shoulder adapted to engage a barb or shoulder in the second engaging means.
22. The fastener of any one of Claims 17 to 21 wherein the second longitudinal body is substantially cylindrical and the means capable of assuming the first position of narrow cross-sectional area and the second position of wide cross-sectional area comprises a continuation of the cylinder, the cylinder being partially segmented.
23. The fastener of Claim 22, wherein the means are wings hinged to the cylinder.
24. The fastener of any one of Claims 16 to 23, wherein the second engaging means takes the form of threads or annular grooves and projections, adapted to deform and increase 25 in cross-sectional area through longitudinal slits cut into the threads or grooves and projections.
25. The fastener of any one of Claims 1 to 13 or 16 to 24, wherein one end of the longitudinal body is adapted to engage an insertion tool and the other end is a probe.
26. A connecting means adapted to releasably fix a first element and a second element, 30 the connecting means including a locking means movable by activation means between a locked position in which the first element is locked to the second element and an unlocked position in which the first element is released from the second element,

wherein the locking means is moveable in a deformable channel and in the first position the locking means prevents deformation of the channel in the region of the locking means and wherein the locking means is at least one rotatable element adapted to be rotatable within the deformable channel.

- 5 27. The connecting means of claim 26, wherein the locking means is wedge shaped.
28. The connecting means of claim 26 or 27, wherein the activation means includes or comprises a magnet or electromagnet.
29. The connecting means of claim 28, wherein the locking means includes two or more rotatable elements adapted to cause a bar to rise or lower
- 10 30. The connecting means of any one of claims 26 to 29, which has two or more of the locking means.
31. The fastener of any one of claims 1 to 13 substantially as herein described with reference to Figures 1 to 4 or 5 to 10 or 11 to 18 or 19 and 20 of the accompanying drawings.
- 15 32. The fastener of any one of claims 16 to 25 substantially as herein described with reference to Figures 21 to 24 or 25 to 27 of the accompanying drawings
33. The fastener of any one of claims 26 to 30 substantially as herein described with reference to Figures 29 to 34 of the accompanying drawings